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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,320

01/21/2004

Takao Isogai

084335-0181

7661

22428

7590

06/02/2006

FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

MARTINELL, JAMES

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,320

Applicant(s)

ISOGAI ET AL.

Examiner

James Martinell

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/04 & 8/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Claims 3-4 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 28, 2006

Amended claim 4 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 4 is drawn to the same invention as claim 3 which was Grouped in Group III in the requirement for restriction mailed November 29, 2005.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 4 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The disclosure is objected to because of the following informalities.

- (a) On page 1, line 13 "*arabidopsis*" should be changed to "*Arabidopsis*" because it is a genus name.
- (b) The numeral represented here by the question mark in "BRACE20353?1" on page 439, line 33 is illegible

Appropriate correction is required.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. Embedded hyperlinks and/or other forms of browser-executable code appear in at least the following locations:

- (a) page 4, lines 18-20 and 24-27,
- (b) page 9, line 28,
- (c) page 86, line 7,
- (d) page 93, line 21,
- (e) page 96, line 16,
- (f) page 98, line 20,

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- (g) page 128, lines 12, 13, and 16,
- (h) page 145, line 23,
- (i) page 151, line 27,
- (j) page 217, lines 6 and 14,
- (k) page 270, line 23, ,
- (l) page 309, lines 15 and 17, and
- (m) page 519, one 27.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 5-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague, indefinite, inaccurate, and misdescriptive.

- (a) Claim 1 is vague and indefinite because it claims more than was elected. It is noted that parts (b) and (c) are drawn to a non-elected invention in that the polynucleotide sequences embraced by these parts of the claim are described in terms of the amino acid sequence that is encoded. The elected invention is not described in the same terms (*i.e.*, applicants elected the nucleotide sequence SEQ ID NO: 102 and portions thereof). In addition, the claim embraces a large number of non-elected SEQ ID NOs.
- (b) The recitation of "comprising a protein-coding region" (claim 1) is vague and indefinite because the instant application does not describe the protein-coding regions of SEQ ID NO: 102.

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- (c) The recitation of "which comprises the nucleotide sequence encoding a polypeptide functionally equivalent to a polypeptide encoded by [SEQ ID NO: 102]" (claim 1) is vague and indefinite because the instant application does not define the function of any polypeptide encoded by SEQ ID NO: 102 nor does it describe or define what is meant by a functional equivalent of any such putative polypeptide whose function has not been disclosed.
- (d) The recitation of "as described above" (claim 1) is vague and indefinite because "above" may describe the entire specification. Such language amounts to an omnibus-type claim.
- (e) The recitation of "comprising a nucleotide sequence encoding a partial amino acid sequence of a polypeptide encoded by the polynucleotides according to any one of (a)-(d)" is vague and indefinite. Parts (b) and (c) of the claim are drawn to a non-elected invention (the discussion in (a) above is incorporated here). The claim is also vague and indefinite because the instant application does not describe the protein-coding regions of SEQ ID NO: 102.
- (f) Claim 9 is inaccurate and misdescriptive because an oligonucleotide cannot comprise SEQ ID NO: 102 which is 3122 nucleotides in length.

Claims 1, 5-8, 12, and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant application does not describe protein-coding regions of SEQ ID NO: 102 (see the rejection under 35 U.S.C. § 112, second paragraph, items (b), (c), and (e) above). In addition, the instant application does not describe a function for any polypeptide encoded by SEQ ID NO: 102.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5-7, and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by GenBank® Accession No. AC008736 (September 27, 2000). GenBank® Accession No. AC008736 has 92.7% sequence identity to SEQ ID NO: 102 (see the alignment below). Thus, GenBank® Accession No. AC008736 is embraced by the claims (*e.g.*, see Claim 1(f) and (g)). Since the DNA was sequenced, it was necessarily contained within a vector and host cell.

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RESULT 3

AC008736/c

LOCUS AC008736 191925 bp DNA linear PRI 27-SEP-2000

DEFINITION Homo sapiens chromosome 19 clone CTD-2538C1, complete sequence.

ACCESSION AC008736

VERSION AC008736.6 GI:10312244

KEYWORDS HTG.

SOURCE Homo sapiens (human)

ORGANISM Homo sapiens

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
Hominidae; Homo.

REFERENCE 1 (bases 1 to 191925)

AUTHORS DOE Joint Genome Institute and Stanford Human Genome Center.

TITLE Direct Submission

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 191925)

AUTHORS DOE Joint Genome Institute.

TITLE Direct Submission

JOURNAL Submitted (03-AUG-1999) Production Sequencing Facility, DOE Joint
Genome Institute, 2800 Mitchell Drive, Walnut Creek, CA 94598, USA

REFERENCE 3 (bases 1 to 191925)

AUTHORS DOE Joint Genome Institute and Stanford Human Genome Center.

TITLE Direct Submission

JOURNAL Submitted (27-SEP-2000) DOE Joint Genome Institute, 2800 Mitchell
Drive, Walnut Creek, CA 94598, USA

COMMENT On Sep 27, 2000 this sequence version replaced gi:8575905.

Draft Sequence Produced by DOE Joint Genome Institute

www.jgi.doe.gov

Finishing Completed at Stanford Human Genome Center

www-shgc.stanford.edu

Quality: Phrap Quality >=40 99.9% of Sequence;

Estimated Total Number of Errors is 0.1.

STS Content:

SHGC-57769 G37408.

FEATURES Location/Qualifiers

source

1. .191925

/organism="Homo sapiens"

/mol_type="genomic DNA"

/db_xref="taxon:9606"

/chromosome="19"

/clone="CTD-2538C1"

ORIGIN

Query Match 92.7%; Score 2892.8; DB 8; Length 191925;

Best Local Similarity 99.9%; Pred. No. 0;

Matches 2894; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy      1  ACTAGAGGTGGGGTTAGCGCTTGAAGCACCGACCAACGTGAGCGCAACGCGGCAGGGAC 60
      |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      129460 ACTAGAGGTGGGGTTAGCGCTTGAAGCACCGACCAACGTGAGCGCAACGCGGCAGGGAC 129401

Qy      61  ACCTGACCCCGGCGGCGCCAGCCCCTCGGATTGCCAGTCACTGCTCGCTTTGGGGCACG 120
      |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      129400 ACCTGACCCCGGCGGCGCCAGCCCCTCGGATTGCCAGTCACTGCTCGCTTTGGGGCACG 129341

Qy      121  GAGGTGCCCAGTCCTGCGGGGCACCCGACGTCTGTGCGCCGACAGGGTCCGGGAGTCAGT 180
      |||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      129340 GAGGTGCCCAGTCCTGCGGGGCACCCGACGTCTGTGCGCCGACAGGGTCCGGGAGTCAGT 129281
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Qy 181 ATAGCTGGGTTCTAGTCCCATCACAGGCAAAAACCTCCGCGGGAGCCTGGCCCGCTTTTTA 240
|||||
Db 129280 ATAGCTGGGTTCTAGTCCCATCACAGGCAAAAACCTCCGCGGGAGCCTGGCCCGCTTTTTA 129221

Qy 241 CCTGGGCCTCAGTTTCCCCATCCGTAAAATAGAACGGGTGGATCTCCCGAGCGCTAACA 300
|||||
Db 129220 CCTGGGCCTCAGTTTCCCCATCCGTAAAATAGAACGGGTGGATCTCCCGAGCGCTAACA 129161

Qy 301 TTCCAGAACTCGGATGGGGCGAAGGGGAGGGAGGGATGGGCCACCCACAGTGACCTCCC 360
|||||
Db 129160 TTCCAGAACTCGGATGGGGCGAAGGGGAGGGAGGGATGGGCCACCCACAGTGACCTCCC 129101

Qy 361 CGCGTGGAGCCCCGCCTACCACTGATCCAGGGGGTGGCAGCTCCGGCCGGGACGAGCGGG 420
|||||
Db 129100 CGCGTGGAGCCCCGCCTACCACTGATCCAGGGGGTGGCAGCTCCGGCCGGGACGAGCGGG 129041

Qy 421 GTGGGCGGGTCCTAGGAAACCCTACCCGCCGCCCTTGGCAGCGCCTAAGGCGGAGCGCG 480
|||||
Db 129040 GTGGGCGGGTCCTAGGAAACCCTACCCGCCGCCCTTGGCAGCGCCTAAGGCGGAGCGCG 128981

Qy 481 CGGCTCTGCAGCCTGCTTGCCCCGAGTTGGCACCCACGAGGATGGGGACCGCACCCCTC 540
|||||
Db 128980 CGGCTCTGCAGCCTGCTTGCCCCGAGTTGGCACCCACGAGGATGGGGACCGCACCCCTC 128921

Qy 541 AGCTTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGG 600
|||||
Db 128920 AGCTTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGG 128861

Qy 601 AGTGCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGC 660
|||||
Db 128860 AGTGCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGC 128801

Qy 661 GCCCCGTCCGCAGAGGCGCACGTGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTA 720
|||||
Db 128800 GCCCCGTCCGCAGAGGCGCACGTGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTA 128741

Qy 721 GCGCCGAGCGAGTACGCGACCATGAAGAGCGTTTCGTGCCGCGCGGCCCAAGGCCGGGATG 780
|||||
Db 128740 GCGCCGAGCGAGTACGCGACCATGAAGAGCGTTTCGTGCCGCGCGGCCCAAGGCCGGGATG 128681

Qy 781 GGGGTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGGGCGGGCGGGCCCC 840
|||||
Db 128680 GGGGTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGGGCGGGCGGGCCCC 128621

Qy 841 AGCCGGAGCCCACCGCATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACA 900
|||||
Db 128620 AGCCGGAGCCCACCGCATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACA 128561

Qy 901 AGACGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGA 960
|||||
Db 128560 AGACGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGA 128501

Qy 961 ACCTGCGGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTGGCGGTGTCCACCT 1020
|||||
Db 128500 ACCTGCGGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTGGCGGTGTCCACCT 128441

Qy 1021 GCGCCCGGCTGACTGCTGTGCTGCGCGACCGGGGCCTGGCCGCCGACGAGCGCGCCGAGT 1080
|||||
Db 128440 GCGCCCGGCTGACTGCTGTGCTGCGCGACCGGGGCCTGGCCGCCGACGAGCGCGCCGAGT 128381

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Qy 1081 TCGAGCGGCTCTGGGTGGCCTTCTCGGGCTGCCTGGACCTGCTGGAAGCGGACATGCGAC 1140
|||||
Db 128380 TCGAGCGGCTCTGGGTGGCCTTCTCGGGCTGCCTGGACCTGCTGGAAGCGGACATGCGAC 128321

Qy 1141 GCTCGCTGGAGCTGGGCGCCGCGTTCCCGCTGCACGCGCCGCGGCGACCGCTGGTGC GCA 1200
|||||
Db 128320 GCTCGCTGGAGCTGGGCGCCGCGTTCCCGCTGCACGCGCCGCGGCGGCGCGCTGGTGC GCA 128261

Qy 1201 CAGGTGTGGCTGGCGCCTCCTCCGGCGTGGCGGCGCGCGCTGAGCACCCGCAGCCTGC 1260
|||||
Db 128260 CAGGTGTGGCTGGCGCCTCCTCCGGCGTGGCGGCGCGCGCTGAGCACCCGCAGCCTGC 128201

Qy 1261 GGCTCGAGGCGGAGGGCGACTTCGACGTCGCGGACCTGCGGGAGCTGGAGCGCGAGGTCC 1320
|||||
Db 128200 GGCTCGAGGCGGAGGGCGACTTCGACGTCGCGGACCTGCGGGAGCTGGAGCGCGAGGTCC 128141

Qy 1321 TTCAGGTGGGCGAGATGATCGACAACATGGAGATGAAGGTCAACGTGCCCCGCTGGACCG 1380
|||||
Db 128140 TTCAGGTGGGCGAGATGATCGACAACATGGAGATGAAGGTCAACGTGCCCCGCTGGACCG 128081

Qy 1381 TGCAAGCCCGGCAGGCGGCGGGCGCCGAGCTCCTGTCCACGGTCAGCGCCGGCCCCCTCCT 1440
|||||
Db 128080 TGCAAGCCCGGCAGGCGGCGGGCGCCGAGCTCCTGTCCACGGTCAGCGCCGGCCCCCTCCT 128021

Qy 1441 CGGTCGTGTCCTTGCAGGAGCGCGGGGGGGTTCGACCCAGGAAGGCCCTGGCCGCCA 1500
|||||
Db 128020 CGGTCGTGTCCTTGCAGGAGCGCGGGGGGGTTCGACCCAGGAAGGCCCTGGCCGCCA 127961

Qy 1501 TCCTTTTCGGCGCCGTGCTGCTGGCGGCTGTGGCCCTAGCCGTGTGCGTGGCGAAGCTGA 1560
|||||
Db 127960 TCCTTTTCGGCGCCGTGCTGCTGGCGGCTGTGGCCCTAGCCGTGTGCGTGGCGAAGCTGA 127901

Qy 1561 GCTGACAGACACCCGACGGCCGCTGCTGCTGCCGCTCCCTCCCCTGAGAAAAGACTCGG 1620
|||||
Db 127900 GCTGACAGACACCCGACGGCCGCTGCTGCTGCCGCTCCCTCCCCTGAGAAAAGACTCGG 127841

Qy 1621 GATGGGTGTGGGGTCTGGCCTGTGCAAGGGGAGTGGTCCTAAAACCCCGTGTGTGCATGG 1680
|||||
Db 127840 GATGGGTGTGGGGTCTGGCCTGTGCAAGGGGAGTGGTCCTAAAACCCCGTGTGTGCATGG 127781

Qy 1681 GTACACGCGCGTTTCCAGTGACATCTGCCTGGGCAGGACACGGTTTTCTCTTGCTGGC 1740
|||||
Db 127780 GTACACGCGCGTTTCCAGTGACATCTGCCTGGGCAGGACACGGTTTTCTCTTGCTGGC 127721

Qy 1741 CCGGGAGAAGTTAACTTTGCGCCGGCCGTCAGGGCATTACCGCTAACGTCTGCAGGAGCT 1800
|||||
Db 127720 CCGGGAGAAGTTAACTTTGCGCCGGCCGTCAGGGCATTACCGCTAACGTCTGCAGGAGCT 127661

Qy 1801 TTATTCCCTATTAATAGAAAACCGTCACAGTGACCCTAGATCCCTCCGAGTTAATGAGTT 1860
|||||
Db 127660 TTATTCCCTATTAATAGAAAACCGTCACAGTGACCCTAGATCCCTCCGAGTTAATGAGTT 127601

Qy 1861 AACACATGTGCTGTTGGGGCGTCTTTACAGGGAGTCCGAGTTCGGTGCCACCCCTGCCA 1920
|||||
Db 127600 AACACATGTGCTGTTGGGGCGTCTTTACAGGGAGTCCGAGTTCGGTGCCACCCCTGCCA 127541

Qy 1921 GCGTCGCCCCCTTTCTGCGTGGGACAGTTTGAAAAGGTGGGTGGGTGGAGTGAAGTTTG 1980
|||||
Db 127540 GCGTCGCCCCCTTTCTGCGTGGGACAGTTTGAAAAGGTGGGTGGGTGGAGTGAAGTTTG 127481

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Qy 1981 GAGAGGGACGCTGTTTGGTTCTATGTGGTTGGTCTGTTTCCCGGACAAGAAAAATTGCAA 2040
|||||
Db 127480 GAGAGGGACGCTGTTTGGTTCTATGTGGTTGGTCTGTTTCCCGGACAAGAAAAATTGCAA 127421

Qy 2041 TCAAATGTCAGCAGCTTTTATTACCTTAATCTTTCAGGGCCTAAATTTAGGAGAGTGTCC 2100
|||||
Db 127420 TCAAATGTCAGCAGCTTTTATTACCTTAATCTTTCAGGGCCTAAATTTAGGAGAGTGTCC 127361

Qy 2101 TGAGAGCAGTTCATACAAAGGGCTTTCTCTAAGACGCGCTACAGCCCTTCTTAGCAGAGT 2160
|||||
Db 127360 TGAGAGCAGTTCATACAAAGGGCTTTCTCTAAGACGCGCTACAGCCCTTCTTAGCAGAGT 127301

Qy 2161 TTATCCATTTCGTCCTCCCAAGAGCAGCTAGAAGAGATTTGAGGTCATGACCTCCCACTGCCG 2220
|||||
Db 127300 TTATCCATTTCGTCCTCCCAAGAGCAGCTAGAAGAGATTTGAGGTCATGACCTCCCACTGCCG 127241

Qy 2221 CTCAGGGGGCTGACCCTATTTAGGAAACCAAAGAGGGTGGGTGAACCTACTCTCACGGAC 2280
|||||
Db 127240 CTCAGGGGGCTGACCCTATTTAGGAAACCAAAGAGGGTGGGTGAACCTACTCTCACGGAC 127181

Qy 2281 TTGGATCCAGTGCGCACACTTGCTGCGGAAAAGGGCTCTCCCAGCCACCCGGAGATGG 2340
|||||
Db 127180 TTGGATCCAGTGCGCACACTTGCTGCGGAAAAGGGCTCTCCCAGCCACCCGGAGATGG 127121

Qy 2341 GGGTAAGAGGAAGAGCAGAGGCTTGGGGTAGGGCCACCTGGTGTTTAAACAGGCACCTTC 2400
|||||
Db 127120 GGGTAAGAGGAAGAGCAGAGGCTTGGGGTAGGGCCACCTGGTGTTTAAACAGGCACCTTC 127061

Qy 2401 TCCTTCTCTGGGGCTTATTTTGTTCAGAACTAGACCAGAGTGTTTGAACCTCCTTTGCA 2460
|||||
Db 127060 TCCTTCTCTGGGGCTTATTTTGTTCAGAACTAGACCAGAGTGTTTGAACCTCCTTTGCA 127001

Qy 2461 GGAGGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGC 2520
|||||
Db 127000 GGAGGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGC 126941

Qy 2521 TGGCCAGTAGGAGGGCTGGCTTTGGCAGCTCCCTGACCCCGCGCTGCCCGCCCCTCCGG 2580
|||||
Db 126940 TGGCCAGTAGGAGGGCTGGCTTTGGCAGCTCCCTGACCCCGCGCTGCCCGCCCCTCCGG 126881

Qy 2581 GGTAATGTGGCATTACTGGCCACAGAGGTTTTGAGCCAATCAGCTCTGAGACTGGGTTA 2640
|||||
Db 126880 GGTAATGTGGCATTACTGGCCACAGAGGTTTTGAGCCAATCAGCTCTGAGACTGGGTTA 126821

Qy 2641 GAATGTAACAGCTTTAACTTGGGATTTAAGAAGCTTTTAAAAGGTAATAATCCTCTGAAA 2700
|||||
Db 126820 GAATGTAACAGCTTTAACTTGGGATTTAAGAAGCTTTTAAAAGGTAATAATCCTCTGAAA 126761

Qy 2701 GAAAAATGACGTAACCACAGCGTGACTATGAAAGCTGTTATTTTAAATAAAGAACGCTGG 2760
|||||
Db 126760 GAAAAATGACGTAACCACAGCGTGACTATGAAAGCTGTTATTTTAAATAAAGAACGCTGG 126701

Qy 2761 GCCATGAACTCATACCTGCCAATGAGTCAAACATAGTATCTTTATGTAGATACTTAGATT 2820
|||||
Db 126700 GCCATGAACTCATACCTGCCAATGAGTCAAACATAGTATCTTTATGTAGATACTTAGATT 126641

Qy 2821 ACTAAATATATATTTTCATCTACTTCTGAAGTTGATAGTCTTCCCCCCCCCCCCACTTTTT 2880
|||||
Db 126640 ACTAAATATATATTTTCATCTACTTCTGAAGTTGATAGTCTTCCCCCCCCCCCCACTTTTT 126581

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Qy      2881  TCTTTTTTGAGGCAGG 2896
          |||||
Db      126580 TCTTTTTTGAGACAGG 126565

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Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over GenBank® Accession No. AC008736 (September 27, 2000) in view of applicants' admitted state of the prior art (*e.g.*, page 82, first full paragraph). GenBank® Accession No. AC008736 has 92.7% sequence identity to SEQ ID NO: 102. Applicants acknowledge the expression of nucleic acids in heterologous host cells to be old (*e.g.*, instant application at page 82, first full paragraph). It would have been obvious for one of ordinary skill in the art at the time the invention was made to express the nucleic acid of GenBank® Accession No. AC008736 in the admittedly old manner in order to produce large amounts of sequence-specific polypeptide.

Claims 1, 5-7, and 9-13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shoshan et al (WO 02/10449 A2 (February 7, 2002)). SEQ ID NO: 23330 of Shoshan et al is 60 nucleotides in length and matches 60 contiguous nucleotides in SEQ ID NO: 102 of the instant claims (see the alignment below). Thus, the DNA of Shoshan et al is embraced by the claims. Shoshan et al also discloses hybridization assays and antisense molecules (*e.g.*, see the abstract).

```

RESULT 14
ABN50582
ID  ABN50582 standard; DNA; 60 BP.
XX
AC  ABN50582;
XX
DT  15-JUL-2002 (first entry)
XX
DE  Human spliced transcript detection oligonucleotide SEQ ID NO:23330.
XX
KW  Human; mouse; rat; splice transcript; detection; RNA transcript;
KW  splice variant; transcriptome; oligonucleotide library; ss.
XX
OS  Homo sapiens.
XX
PN  WO200210449-A2.
XX
PD  07-FEB-2002.
XX
PF  20-JUL-2001; 2001WO-IB001903.
XX
PR  28-JUL-2000; 2000US-0221607P.
PR  02-MAY-2001; 2001US-0287724P.
XX
PA  (COMP-) COMPUGEN INC.

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Art Unit: 1634

XX
 PI Shoshan A, Wasserman A, Mintz E, Mintz L, Faigler S;
 XX
 DR WPI; 2002-257383/30.
 XX
 PT New oligonucleotide libraries comprising oligonucleotides which
 PT selectively hybridize to mRNAs transcribed from a transcription unit of a
 PT genome, useful for detecting tissue-, pathology-, and developmental-
 PT specific genes.
 XX
 PS Example 1; SEQ ID NO 23330; 47pp; English.
 XX
 CC The present invention describes oligonucleotide libraries for detecting
 CC messenger RNAs that populate a (sub-)transcriptome, where the (sub-
 CC)transcriptome comprises messenger RNAs transcribed from multiple
 CC transcription units that populate a genome. The library comprises several
 CC oligonucleotides, each capable of hybridising selectively to a set of
 CC messenger RNAs transcribed from a given transcription unit of the genome,
 CC which encodes one or more messenger RNA splice variants. The
 CC oligonucleotide libraries are useful for detecting mRNAs from a
 CC biological sample, in expression profiling studies, in qualitatively or
 CC quantitatively characterising the corresponding transcriptome, and in
 CC detecting RNA transcripts and splice variants of human or animal
 CC transcriptomes. The libraries may also be used as specialised mini
 CC libraries to detect transcripts of a sub-transcriptome under a particular
 CC biological or pathological state, and so allowing the detection of tissue
 CC - and pathology-specific genes such as those genes only expressed in
 CC specific tissue under a specific pathological condition; to detect
 CC developmental specific genes; and to detect RNA transcripts and splice
 CC variants of a transcriptome of a patient suffering from a particular
 CC disorder. ABN27253 to ABN59589 represent oligonucleotide sequences from
 CC rats, humans and mice, which are used in the exemplification of the
 CC present invention. N.B. The sequence data for this patent did not form
 CC part of the printed specification, but was obtained in electronic format
 CC directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
 XX
 SQ Sequence 60 BP; 11 A; 14 C; 16 G; 19 T; 0 U; 0 Other;

Query Match 1.9%; Score 60; DB 6; Length 60;
 Best Local Similarity 100.0%; Pred. No. 3.5e-17;
 Matches 60; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2464 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 2523
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
 Db 1 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 60

Claims 1, 5-7, and 9-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Shoshan et al (U.S. Patent Application Publication 20030165843). SEQ ID NO: 23330 of Shoshan et al is 60 nucleotides in length and matches 60 contiguous nucleotides in SEQ ID NO: 102 of the instant claims (see the alignment below). Thus, the DNA of Shoshan et al is embraced by the claims. Shoshan et al also discloses hybridization assays and antisense molecules (*e.g.*, see the abstract).

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RESULT 9
 US-09-908-975-23330
 ; Sequence 23330, Application US/09908975
 ; Publication No. US20030165843A1
 ; GENERAL INFORMATION:
 ; APPLICANT: SHOSHAN, Avi
 ; APPLICANT: WASSERMAN, Alon
 ; APPLICANT: MINTZ, Eli
 ; APPLICANT: MINTZ, Liat
 ; APPLICANT: FAIGLER, Simchon
 ; TITLE OF INVENTION: OLIGONUCLEOTIDE LIBRARY FOR DETECTING RNA TRANSCRIPTS AND
 SPLICE VARIANTS
 ; TITLE OF INVENTION: THAT POPULATE A TRANSCRIPTOME
 ; FILE REFERENCE: 36688-0005
 ; CURRENT APPLICATION NUMBER: US/09/908,975
 ; CURRENT FILING DATE: 2001-07-20
 ; PRIOR APPLICATION NUMBER: US 60/287,724
 ; PRIOR FILING DATE: 2001-05-02
 ; PRIOR APPLICATION NUMBER: US 60/221,607
 ; PRIOR FILING DATE: 2000-07-28
 ; NUMBER OF SEQ ID NOS: 32337
 ; SOFTWARE: PatentIn version 3.0
 ; SEQ ID NO 23330
 ; LENGTH: 60
 ; TYPE: DNA
 ; ORGANISM: Homo sapiens
 US-09-908-975-23330

Query Match 1.9%; Score 60; DB 3; Length 60;
 Best Local Similarity 100.0%; Pred. No. 3.2e-20;
 Matches 60; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2464 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 2523
 |||||
 Db 1 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 60

Claims 1 and 5-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Penn et al (U.S. Patent Application Publication 20030194704). SEQ ID NO: 6988 of Penn et al is 524 nucleotides in length and matches 524 contiguous nucleotides in SEQ ID NO: 102 of the instant claims (see the alignment below). Thus, the DNA of Penn et al is embraced by the claims. Penn et al also teaches the use of arrays and nucleic acid molecular hybridization assays (*e.g.*, see paragraphs 0176-0193) and heterologous expression of nucleic acids (*e.g.*, see paragraphs 0439-0467).

RESULT 3
 US-10-029-386-6988/c
 ; Sequence 6988, Application US/10029386
 ; Publication No. US20030194704A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Penn, Sharron G.
 ; APPLICANT: Rank, David R.

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; APPLICANT: Hanzel, David K.
; TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR GENE
; TITLE OF INVENTION: EXPRESSION ANALYSIS TWO
; FILE REFERENCE: AEOMICA-X-2
; CURRENT APPLICATION NUMBER: US/10/029,386
; CURRENT FILING DATE: 2001-12-20
; NUMBER OF SEQ ID NOS: 34288
; SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
; SEQ ID NO 6988
; LENGTH: 524
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: MAP TO AC010615.5
; OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 0.56
; OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1.2
; OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 1.3
; OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.1
; OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 1.5
; OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 1.3
; OTHER INFORMATION: EST_HUMAN HIT: AW302149.1, EVALUE 0.00e+00
; OTHER INFORMATION: SWISSPROT HIT: Q06805, EVALUE 1.90e-01
; OTHER INFORMATION: NT HIT: gi4507086, EVALUE 7.80e+00
US-10-029-386-6988

Query Match 16.8%; Score 524; DB 6; Length 524;
Best Local Similarity 100.0%; Pred. No. 6.5e-265;
Matches 524; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	484	CTCTGCAGCCTGCTTGCCCCGGAGTTGGCACCCACGGAGGATGGGGACCGCACCTCAGC	543
Db	524	CTCTGCAGCCTGCTTGCCCCGGAGTTGGCACCCACGGAGGATGGGGACCGCACCTCAGC	465
Qy	544	TTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGGAGT	603
Db	464	TTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGGAGT	405
Qy	604	GCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGCGCC	663
Db	404	GCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGCGCC	345
Qy	664	CCGTCCGCAGAGGCGCACGTCGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTAGCG	723
Db	344	CCGTCCGCAGAGGCGCACGTCGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTAGCG	285
Qy	724	CCGAGCGAGTCACGGACCATGAAGAGCGTTCGTGCCGCGCGGCCAAGGCCGGGATGGGG	783
Db	284	CCGAGCGAGTCACGGACCATGAAGAGCGTTCGTGCCGCGCGGCCAAGGCCGGGATGGGG	225
Qy	784	GTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGCGGGCGGGCGGGCCCAGC	843
Db	224	GTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGCGGGCGGGCGGGCCCAGC	165
Qy	844	CGGAGCCCACCGCGATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACAAGA	903
Db	164	CGGAGCCCACCGCGATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACAAGA	105
Qy	904	CGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGAACC	963

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Db 104 CGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGAACC 45

Qy 964 TGC GGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTG 1007
|||||

Db 44 TGC GGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTG 1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Martinell whose telephone number is (571) 272-0719.

The examiner works a flexible schedule and can be reached by phone and voice mail.

Alternatively, a request for a return telephone call may be e-mailed to james.martinell@uspto.gov. Since e-mail communications may not be secure, it is suggested that information in such requests be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571) 272-0735.

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OFFICIAL FAX NUMBER

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any Official Communication to the USPTO should be faxed to this number.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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James Martinell, Ph.D.
Primary Examiner
Art Unit 1634

5/27/09